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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/542,952

04/17/2006

David Cressey

3174-01

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26645

7590

05/11/2010

THE LUBRIZOL CORPORATION  
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EXAMINER

OLADAPO, TAIWO

ART UNIT

PAPER NUMBER

1797

MAIL DATE

DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/542,952	<b>Applicant(s)</b> CRESSEY ET AL.	
	<b>Examiner</b> TAIWO OLADAPO	<b>Art Unit</b> 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 29 April 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 2,4,5,25,28-31,34 and 37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2,4,5,25,28-31,34 and 37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 04/23/2010 has been entered.
2. The amendments dated 04/23/2010 and 04/29/2010 have been considered and entered for the record. The amendment overcomes previous objections and rejections under 35 U.S.C. 112 which are hereby withdrawn. The arguments over the prior art are not persuasive; however, new grounds of rejection are made in view of the amendments.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

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2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
6. Claims 2, 4, 5, 25, 28 – 31, 34, 37, are rejected under 35 U.S.C. 103(a) as being unpatentable over Taylor et al. (WO 01/56968) in view of Hoke (US 4,090,971).
7. In regards to claim 34, Taylor teaches additives comprising salicylic calixarenes which are salixarates formed from the reaction product of structures (Ia) and (Ib) (abstract). Taylor teaches compound (Ia) wherein  $R^5$  can be hydroxyl, and j is 1 or 2 which meets the limitations of compounds (I) and (III) in the claim when U is hydroxyl and  $R^3$  is hydrogen,  $R^2$  is hydroxyl and j is 1; compound (Ib) wherein  $R^1$ ,  $R^2$ ,  $R^4$  can each be hydroxyl, and  $R^3$  can be hydrocarbyl which meets the limitations of formula (II) of the claim when  $R^4$  is hydrocarbyl, g is 1 and f is 3. Since the claim requires that the salicylic compound comprise one or more of the compounds (I) to (IV), Taylor meets the limitation of 1(a)(i)/ 21(a)(i) of the claims.

Taylor teaches use of the salixarate compounds or their metal salts in lubricating oils which meets the limitations of (b) of the claim (column 20 lines 26 – 31). The reaction product

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is a sulfur free reaction product according to limitation (a) of the claim. Taylor does not teach reacting the salicylic compounds with an amine according to the limitations in 1(a)(ii)/21(a)(ii).

Hoke teaches substituted salicylamides useful as dispersants in lubricants or fuels (abstract). Hoke teaches the salicylamides can be prepared from salicylic acids or derivatives which are reacted with monoamines, polyamines or nitrogen compounds such as aliphatic, aromatic, heterocyclic and carboxylic amines including compounds like imidazoles which are nitrogen heterocycles and hydroxy substituted polyamines which meets the limitations 1(a)(ii)(5), (6),(8) (column 2 line 51 – column 3 line 64; column 4 line 63 – column 5 line 10) . Hoke teaches the lubricant can comprise about 0.05 to 20% of the salicylamide reaction product (column 12 lines 11 – 19) and the lubricating oil can comprise about 90% which overlaps the claim (column 15 lines 25 – 42).

It would have been obvious for one of ordinary skill in the art at the time of the invention to have used the salixarate of Taylor to prepare salicylamides according to the teaching of Hoke, as Hoke teaches they are useful as dispersants in lubricating oils. Such dispersants would have been suitable for use in the invention of Taylor which teaches that the lubricant composition can comprise other additives such as dispersants

Taylor and Hoke combined teach the composition which is suitable for lubricating internal combustion engines such as diesel engines, thus providing for the method of lubricating the engine by supplying the engine with the composition of claim 1 which intrinsically performs the desired functions (Taylor, Page 1 lines 1 – 6).

8. In regards to claim 2, Taylor and Hoke combined teach the lubricant composition comprising dispersants as previously stated.

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9. In regards to claims 4, 5, Taylor and Hoke teach the composition. Hoke teaches the reaction products could be further post-treated with sulfur (column 6 lines 25 – 34). The post treatment of the products is optional and is therefore not required in the invention of Hoke. Hoke teaches that the products can comprise extreme pressure additives which are either sulfur based or non sulfur based (column 14 lines 11 – 37). Taylor does not require sulfurized compositions. Therefore, sulfur free lubricants are within the scope of the combined invention. Hoke teaches the composition can comprise ashless detergents and dispersants (column 12 lines 22 – 23). Therefore, the lubricating oil can be free of sulfated ash. Neither Taylor nor Hoke requires phosphorus based additives; therefore the lubricant of the combined invention can be sulfur free.
10. In regards to claims 25, Taylor and Hoke combined teach the composition. Hoke teaches amides of carboxylic acids containing alkyl substituted hydroxyl aromatic groups as in the invention of Habeeb (abstract). Hoke teaches that the amides can be prepared from compounds which react with the carboxylic acids, such as, guanidines (column 2 lines 65 – 68).
11. In regards to claim 28, Taylor and Hoke combined teach the composition, wherein the component (a)(ii) are pyrroles, piperidines, pyridines etc (Hoke, column 3 lines 64 – 68).
12. In regards to claims 29, 30, Taylor and Hoke combined teach the composition, wherein the component (a)(ii) is i.e. ethanol amine which are primary aminoalcohols having 1 hydroxyl group and 2 carbons (Hoke, column 3 lines 47 – 55).
13. In regards to claim 31, Taylor and Hoke combined teach the composition comprising the reaction product which can comprises metal or be metal free as previously stated.
14. In regards to claim 37, Taylor and Hoke combined teach the composition which is prepared by reacting components Ia and Ib (equivalent to a(i) and a(ii) of the claim) under

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heating conditions to form a product to be added to a lubricating oil composition thus meeting the limitations of (a) and (c) of claim 32 (Taylor, Page 10 lines 24 – 27). Taylor teaches that the product may be neutralized to form a salt thus meeting the limitation of claim 37 (page 10 lines 28 – 31).

### ***Response to Arguments***

15. Applicant's arguments have been considered but they are not persuasive.

16. The claims have been amended to limit the amount of reaction product to a range of from 0.5 to 15% by weight. Since the combined references teach a range of from 0.5 up to 20% by weight, the range still overlaps and the previous rejection holds.

17. Applicants have argued that Taylor teaches salixarates useful in fuel oils in amounts of from 1 – 1000ppm which is lower than the at least about 5000ppm (0.5 %) by weight required by the amended claim and therefore one of ordinary skill in the art would not think to add salixarates into the composition in amounts claimed.

18. Although applicants correctly assert that Taylor teaches salixarates can be added to fuels in amounts of from 1 to 1000ppm, Taylor teaches that the compounds are useful in lubricating oil compositions as well as fuel oil compositions. Generally similar additives useful for lubricating oils are used in fuels or vice versa but at different treat rates. Knowing the treat rate of the salixarate in a fuel composition does not guarantee the same treat rate would be used in a lubricating oil. Therefore, one of ordinary skill in the art would not have used the percentage of salixarate in fuels taught by Taylor for lubricating oils. Rather, since Hoke teaches similar compounds are used in lubricating oils, the percentages taught by Hoke would have been

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applied. Furthermore, since Hoke teaches percentages that overlap the claimed limitations, the reaction products of the combined references would similarly provide antiwear performance in lubricating oils has asserted by the applicants. Therefore the arguments are not persuasive.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TAIWO OLADAPO whose telephone number is (571)270-3723. The examiner can normally be reached on 8:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571)272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TO

/Ellen M McAvoy/  
Primary Examiner, Art Unit 1797